

REMARKS

The Office Action mailed January 9, 2008, was received and carefully reviewed.

By this amendment, claims 1, 7 and 10 are hereby amended to clarify the invention, and not for reasons of patentability. Claims 2 and 11 were canceled by a previous amendment. Thus, claims 1, 3-10 and 12 remain pending in this application.

Applicants respectfully submit that the amendments to the claims do not include new matter. Support for the amendment to independent claim 1 can be found at least on page 3, lines 9-18 and page 5, lines 26-32 of the specification.

Reconsideration and withdrawal of the currently pending rejections are requested in view of the above amendments and the reasons advanced in detail below.

Allowable Subject Matter

Applicants acknowledge and thank the Examiner for indicating that claim 12 contains allowable subject matter, and would be allowable if rewritten in independent form to include all the limitations of the base claims.

Claim Rejections under 35 U.S.C. § 112

Claims 1 and 7 stand rejected under 35 U.S.C. § 112, 2nd paragraph for allegedly being indefinite for failing to particularly pointing out and distinctly claiming the subject matter which the Applicant regards as the invention.

Applicants respectfully submit that the amendments to claims 1 and 7 obviate any perceived indefiniteness noted by the Examiner. Thus, Applicants respectfully request the withdrawal of this rejection.

Claim Rejections under 35 U.S.C. § 102

Claims 1 and 3-10 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Beck et al. (WO 01/17834) (*Beck*, hereinafter). Applicants traverse the rejection as follows.

Applicants respectfully submit that present independent claim 1, and the claims dependent therefrom, are patently distinguishable over *Beck*, since *Beck* fails to disclose, teach or

suggest all of the features recited in the pending claims. For example, independent claim 1 (**emphasis added**) recites:

A vehicle air supply system having a compressor, an air dryer, a reservoir adapted to receive air from the compressor via the air dryer, and control means operable to cause a standard regeneration of the air dryer when a predetermined system condition is met, the control means also being operable to cause an intermediate regeneration of the air dryer in advance of said predetermined system condition being met **if said system condition is not met within a predetermined time period**, the control means further being operable to inhibit said intermediate regeneration, wherein the control means includes a governor adapted to cause the standard regeneration and a governor bypass adapted to cause the intermediate regeneration, **the control means being adapted so as to disable the governor bypass to inhibit the intermediate regeneration, wherein the control means includes a timer, wherein the control means is operable to selectively cause and inhibit the intermediate regeneration depending upon air supply requirements.**

Thus, independent claim 1 is directed to, *inter alia*, the feature of a vehicle air supply system including control means being operable to cause an intermediate regeneration of the air dryer in advance of said predetermined system condition being met if said system condition is not met within a predetermined time period, control means being adapted so as to disable the governor bypass to inhibit the intermediate regeneration, wherein the control means includes a timer, wherein the control means is operable to selectively cause and inhibit the intermediate regeneration depending upon air supply requirements.

Applicant respectfully submits that the present independent claim 1 is patentably distinguishable over *Beck*. Specifically, *Beck* fails to disclose, teach or suggest a vehicle air supply system including control means being operable to cause an intermediate regeneration of the air dryer in advance of said predetermined system condition being met if said system condition is not met within a predetermined time period, control means being adapted so as to disable the governor bypass to inhibit the intermediate regeneration, wherein the control means includes a timer, wherein the control means is operable to selectively cause and inhibit the intermediate regeneration depending upon air supply requirements, as recited in independent claim 1.

The Examiner purports that *Beck* discloses that “the control means (20) can allow or prevent the regeneration depending on whether the valves are open or closed” (see page 3 of the Office Action dated January 9, 2008).

However, *Beck* actually discloses a conventional vehicle air supply system which is solely directed to the concept of enabling an intermediate regeneration. The intermediate regeneration of *Beck* occurs in instances where a reservoir pressure dependent regeneration has not occurred within a defined time period, and thus prevents the desiccant from becoming saturated. *Beck* discloses on page 3, lines 17-19 (emphasis added) that a “governor bypass arrangement preferably includes a delay means, for example electronic timer, adapted to activate in response to a predetermined system parameter and cause an intermediate regeneration after a predetermined time period has elapsed.”

Additionally, *Beck* discloses (emphasis added) that “[t]he delay means is configured [to] cause an intermediate regeneration of the air dryer when a predetermined time period has elapsed. In a preferred embodiment the delay means is configured to send a pressure signal to the air dryer to take the compressor off-load and regenerate the air dryer.” Furthermore, *Beck* discloses a protection valve “adapted to maintain a predetermined minimum pressure in the first reservoir. The provision of such a protection valve ensures that the first reservoir holds sufficient pressure to operate the signal piston and cause intermediate regeneration of the air dryer” (see *Beck*, e.g., page 4, lines 20-22).

Beck is completely silent with regard to inhibiting the intermediate regeneration. Furthermore, Applicants respectfully submit that *Beck* does not disclose or contemplate means to modify the operation of the timer (i.e., control means 46 of the present invention), nor does *Beck* disclose means to break the pressure signal line to the air dryer (i.e., items 42 and 44 of the present invention).

The amendment to independent claim 1 clarifies that the intermediate regeneration is time dependent, i.e., if the reservoir pressure drops below a predetermined level and then does not achieve a pressure sufficient to operate the governor within a certain time period, then an intermediate regeneration occurs (see, e.g., page 5, lines 1-11 of the present specification).

Furthermore, as disclosed by the present invention, the purpose of inhibiting the intermediate regeneration is to ensure an uninterrupted supply of dry air to the reservoir for a

period longer than that during which an intermediate regeneration would normally occur (see, e.g., page 5, lines 26-32 of the present specification).

The system disclosed in *Beck* merely references a tire inflation system. In this example, a temporary interruption of the flow of air is not of concern because the inflation will continue once the intermediate regeneration has taken place. However, there may exist other circumstances or operating conditions of the vehicle air supply system where such an interruption of air flow could cause problems, and it is these circumstances and operating conditions that the present invention contemplates. For instance, the vehicle may be provided with an arrangement for operating pneumatic tools, with pneumatic pressure being supplied by the reservoir. Such an arrangement may comprise a conduit, e.g., a flexible hose, connected to a valve of the air supply system, which valve can be opened and closed to admit air from the reservoir to enter the conduit, and pneumatically powered tool connected to the conduit. The tool may be, for example, a pneumatic cutter or wrench. Taking the example of an emergency response vehicle, it will be appreciated that the interruption of the operation of a pneumatic tool in a rescue situation is highly undesirable.

In such an arrangement, the control means are able to recognize that an uninterrupted supply of air is likely to be required. For example, if the vehicle is stationary with the engine running (i.e., running the compressor), and the conduit valve is opened, it can be determined that a pneumatic tool is likely to be used. The control means would be able to ascertain this from sensors monitoring the vehicle speed, ignition system and conduit valve position. Consequently, the control means acts to inhibit the possibility of an intermediate regeneration occurring by the methods described in the present specification, i.e., suspending or modifying the operation of the time which normally causes the intermediate regeneration, or blocking the intermediate regeneration signal to the air dryer (see, e.g., page 5, lines 21-32 of the present specification).

While the Examiner purports that the control means of *Beck* “can allow or prevent the regeneration depending on whether the valves are open or closed”, *Beck* actually remains completely silent with regard to this feature. Inhibiting of the intermediate regeneration would, when viewed in isolation, appear to be counterintuitive to the system disclosed in *Beck*, as it

could lead to the desiccant becoming saturated with moisture, which is contrary to the system disclosed in the present invention.

Furthermore, the Examiner has failed to recognize that the solution to one technical problem can lead to the generation of further, hitherto unforeseen, problems which in turn need solving. In the present invention, the problem of desiccant saturation when larger volumes of dry air are required, lead to the development of the intermediate regeneration invention. The introduction of this invention produced the situation whereby, in certain circumstances, interruption of the compressor by the triggering of an intermediate regeneration is undesirable. This necessitated the modification of the *Beck* system described above, to realize the intermediate regeneration inhibition functionality.

In view of the foregoing, it is submitted that the present application is in condition for allowance and a notice to that effect is respectfully requested. If, however, the Examiner deems that any issue remains after considering this response, the Examiner is invited to contact the undersigned attorney/agent to expedite the prosecution and engage in a joint effort to work out a mutually satisfactory solution.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 19-2380. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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